ABSTRACT OF THE DISCLOSURE

The present invention provides an apparatus and a method for precisely and adequately evaluating actual quality of reproduced data whenever applying a maximum likelihood decoder for converting signal reproduced from a recording medium into binary signal. Based on data arrays of a pair of binary data outputted from a "Viterbi" decoder, SAM values are secured by selecting any of path-metric differential values (00) and (11) being the difference between a pair of values compared when renewing path-metric values PMM (00) and (11) outputted from the "Viterbi" decoder. The minimum SAM value for an ideally-reproduced signal is outputted from a constant generating circuit. If the SAM values are verified as valid, and yet, if the SAM values coincide with the equation "input SAM values" $\leqq$ "data value outputted from the constant generating circuit", then squared values outputted from a square circuit are averaged by an averaging circuit. Finally, the average value is outputted as the reproduced signal evaluation.

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